

CLAIM AMENDMENTS

1 1. (original) A method of liberating oxygen isotopes
2 from oxygen-containing solids in which the solids are heated,
3 characterized in that the oxygen-containing solids are brought into
4 contact with graphite and heated up by means of induction whereby
5 CO and/or CO₂ result.

1 2. (original) The method according to claim 1,
2 characterized in that the heating up of the solids is effected in
3 vacuum.

1 3. (original) The method according to claim 1,
2 characterized in that the CO or CO₂, resulting from the heating of
3 the solids are isolated.

1 4. (original) The method according to claim 1,
2 characterized in that the CO or CO₂ are fed to an analysis process.

1 5. (original) The method according to claim 4,
2 characterized in that the analysis process is a mass spectroscopic
3 process.

1 6. (original) The method according to claim 1,
2 characterized in that the solid is a silicate.

1 7. (original) The method according to claim 6,
2 characterized in that the heating is carried out from 1600 to
3 2200 °C.

1 8. (original) The method according to claim 1
2 characterized in that the heating is carried out sequentially to
3 drive off impurities like water.

1 9. (original) An apparatus for liberating oxygen
2 isotopes from oxygen-containing solids characterized in that it
3 includes a graphite cuvette (1) and an induction source.

1 10. (original) The apparatus according to claim 9,
2 characterized in that the graphite cuvette (1) is provided in a
3 vacuum-tight housing (5) of quartz glass to which a pump is
4 connected.

1 11. (original) The apparatus according to claim 9,
2 characterized in that it comprises means (7) for capturing gaseous
3 CO or CO₂ arising from induction.

1 12. (original) The apparatus according to claim 10,
2 characterized in that the housing (5) of quartz glass is provided
3 with means (8) for cooling it.

1 13. (original) The apparatus according to claim 10,
2 characterized in that the housing (5) of quartz glass can be opened
3 on opposite sides to replace the solid with the graphite cuvette.

1 14. (currently amended) The apparatus according to
2 claims 13, characterized in that the graphite cuvette (1) is
3 elongated whereby at an upper end a cavity (2) is provided for
4 receiving the solids and at the opposite end an axial bore (3) is
5 provided which can receive a rod with which the graphite cuvette
6 can be mounted in, the housing (5).

Claim 15, (cancel)

Claim 16, (cancel)

Claim 17, (cancel)

1 18. (new) An apparatus for liberating oxygen isotopes
2 from a solid, comprising:

3 an elongated quartz-glass evacuable vacuum-tight
4 housing connectable to a vacuum pump;

5 an elongated graphite cuvette having a cavity at one end
6 and a bore at an opposite end, said cavity receiving a sample of
7 said solid;

8 a rod received in said bore for inserting said cuvette
9 into said housing and positioning said cuvette in said housing;

10 a cooling jacket surrounding said housing and provided
11 with an inlet and an outlet for passing a cooling liquid through
12 said jacket;

13 an induction coil surrounding said housing for induction
14 heating of said cuvette and said solid to gradually raise a
15 temperature of said solid to initially drive impurities therefrom
16 and then decompose said solid to liberate oxygen therefrom whereby
17 said oxygen combines with graphite carbon to form a carbon-oxygen
18 gas;

19 a duct for admitting a carrier gas to said housing
20 whereby said gas containing oxygen liberated from said solid is
21 entrained in said carrier gas to a spectrometer for isotope
22 analysis.